

household orders were that the helices were to be left undisturbed by brush or broom. The summer came and went, autumn followed, winter came on and still our hermaphrodites "held the fort." No sound of mirth nor music aroused them.

But the rains came on, heavy drenching showers that rushed down the mountains, washed the foot-hills, overflowed the ozanjas, and all nature was in a dripping condition. During one of these storms in January, 1891, the rain came down with such force that it made invidious incursions into the hall during the night, and the snail was found on the floor. In an hour it was as willing as ever to struggle for existence. It ate heartily of celery with its little rasping tongue (radula) beset with multitudes of tiny siliceous teeth.

It was not until February 23 that the other *Helix* had been sufficiently overcome by the forces of nature to loosen its epiphragm enough to descend to the floor. It was placed in a shallow saucer of water, and it assumed its functions as though they had not been arrested.

While these house snails were glued to the ceilings, their relatives in the snailery in the garden had been aroused to activity by the first rain as it pattered through the screen cover; and on January 2, 1891, I found a number of tiny pellucid-looking balls carefully hidden in the moist earth in the snailery. These were the eggs of the snails. In less than three weeks there were young snails. Time had been lost by the house snails, their æstivation extending beyond the requirements of nature had gained them nothing.

It was my intention to study all these forms, and while giving a rest to the "house snails," compare their longevity with the garden helices. But, alas, for the rapacity of the animal kingdom, sowbugs, ants and insects from the rose bushes made war upon the whole snail colony, adults, babies and eggs, and by summer time the houses were empty, the tenants were gone!

A NEW SPECIES OF LIMA.

BY W. H. DALL.

Recent excavations involved in the construction of a tunnel through a hill at Los Angeles, California, on the line of Third street, have developed the presence of fossils, probably Pliocene, in the blue clay through which the tunnel is being cut.

Several specimens, more or less crushed, of a large *Lima* are among the forms collected. This species belongs to the general type of *Lima excavata* Fabr., *L. goliath* Sby, etc., and reaches to a length of four and a half inches. The valves are brilliantly polished, and in the middle part unsculptured, the anterior and posterior thirds are finely radially grooved with shallow grooves of which the outer slopes are less steep than the inner; the incremental lines, obsolete elsewhere, appear in the channel of the grooves and cross striate it here and there, giving the effect of obsolete punctation. I may add that close to the impressed area of the shell there are two or three coarser, deeper radial grooves. The species differs from the South Pacific and all other forms of its group known to me in its much finer and more delicate sculpture and brilliant polish. I await more perfect specimens before trying to figure it, but would propose the name of *Lima Hamlini* for the species in honor of Mr. Homer Hamlin C. E., Asst. City Engineer of Los Angeles, who is much interested in the geology and paleontology of the region, and has made valuable studies of the southern California Tertiary. The specimen in hand was kindly forwarded for examination by Dr. R. E. C. Stearns.

A REVISION OF THE PHYSE OF NORTHEASTERN ILLINOIS.

BY FRANK C. BAKER.

While working up the fresh-water mollusks of the Chicago area for a report on the Mollusca, the genus *Physa* came up for consideration, and the chaotic condition of the group, judging by the conflicting opinions of conchologists, seemed to warrant a somewhat critical revision of the species found in northeastern Illinois, and incidentally of northern Illinois. The best-known species, *heterostropha*, is little understood, and seems to be more frequently confounded with *gyrina* than with any other form, excepting, perhaps, *integra*.

A large collection of Physidæ, from different parts of the United States as well as from northern Illinois, has been examined, and the writer believes that all of the species found within the area have been elucidated. It is very probable that there are but ten or fifteen valid species of *Physa* in the United States, six or seven of which are to be found in the northern part of this region east of the Rocky Mountains.